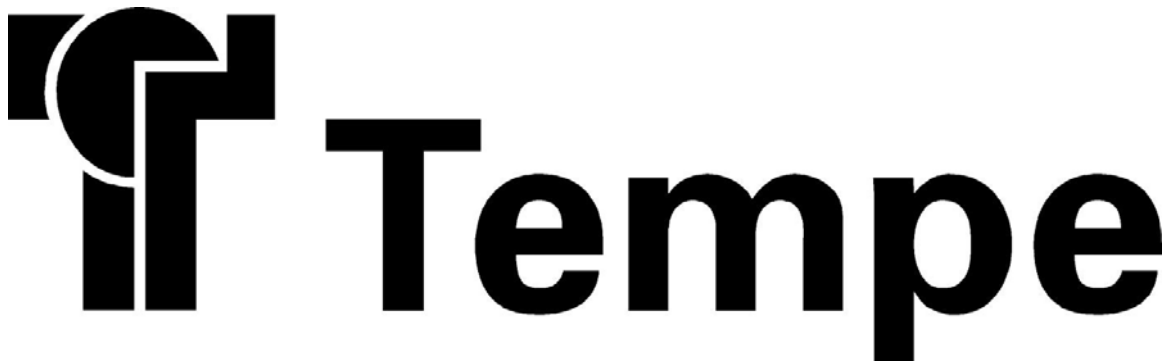


***Policy and Procedures for the Sizing and Cleaning of
Interceptors/Traps for the Food Service Industry***



City of Tempe
Environmental Division
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(480) 350-2678

Legal Authority

Article 1 of Chapter 27 of the Tempe City Code sets forth requirements for users of the Publicly Owned Treatment Works (POTW) for the city (hereinafter referred to as "the city") and enables the city to comply with all applicable state and federal laws, including the Clean Water Act (33 United States Code § 1251 et seq.) and the General Pretreatment Regulations (40 Code of Federal Regulations Part 403).

To protect the POTW the Water Utilities Department administers a pretreatment program. Tempe City Code and the policies of the Water Utilities Department prohibit all users from discharging wastewater containing pollutants into, and/or that will interfere with the operation and efficient functioning of, the POTW.

Installation of Pretreatment Device

All non-domestic users of the POTW engaged in the preparation of any type of food, drink, maintenance/repair of motorized vehicles, wet manufacturing process which generates settleable solids, etc., shall install and maintain, at their expense, pretreatment devices designed to prevent the pass through of pollutants and/or the introduction of wastewater of the quality which may cause interference and/or cause nuisances. These requirements apply to all new installations and to facilities which do not meet the current standards. *Except for domestic sources, users shall not convert solid waste into liquefied waste and introduce such waste into the POTW by means of a garbage grinder/disposal.*

Installation of Grease Interceptors

Grease interceptors shall be required for all food preparation establishments which would contribute or cause to contribute, directly or indirectly, any wastewater which contains oil or grease, including but not limited to, restaurants, cafeterias, cafes, and fast food outlets. Additionally, grease interceptors shall be required for all schools, fraternal organizations, churches, hospitals, and daycare centers which have the capability to engage in food preparation. Any food preparation facility that installs an automatic dishwasher shall install a grease interceptor.

Multiple use or "gang" interceptors shall only be allowed where the property owner has obtained an Arizona Pollution Discharge Elimination System (AZPDES) Stormwater Permit and has agreed to comply with specific stipulations which include but are not limited to the following items:

1. Provide the Environmental Division a copy of the AZPDES Permit for Stormwater Discharge.
2. Design each grease waste line with double sweep clean-outs at the outside wall of each commercial food source, within five feet of the upstream side of the

interceptor and within five feet downstream of each interceptor regardless of the length of run. All other plumbing code requirements for changes in degrees, lengths of run and required clean-outs shall also apply.

3. Enter into a written agreement with a nonhazardous liquid waste (NHLW) hauler, permitted by Maricopa County, for the cleaning of all interceptors located within the [property name].
 - a. The cleaning frequency of each interceptor shall be determined by the Division. A minimum frequency of every 90 days shall be required.
 - b. Full pump outs of interceptors shall be conducted each time.
 - c. The NHLW hauler shall provide documentation for disposal of all waste removed from [project name] interceptors (manifests) which shall be provided to and maintained by [owner].
4. Enter into a written agreement with a firm that is capable of hydro-jetting the grease waste lines from each source into each interceptor at a minimum of every 180 days due to excessive run lengths of the grease lines. A copy of the written agreement shall be filed with the Division.
5. Implement and provide the Division with copies of the cleaning and maintenance agreements prior to start up of commercial food sources.
6. Provide the Division with copies of the new agreement(s) if any changes and/or modifications to the NHLW and/or hydro-jetting agreements are made within 10 business days of the modification.
7. Maintain copies of all cleaning receipts, records, and manifests on-site at the [project name] as required in §27-22(c) of the Tempe City Code.
8. Stipulate in each lease/pad agreement that [owner] is responsible for all maintenance and repairs to each interceptor within the development.
9. Stipulate in each lease that the use of enzymes, surfactants, bio-remediation type products, and any other type products presented/sold as a "maintenance" product shall be prohibited until [owner] has received written authorization from the Division prior to the use of the product. The Division will conduct testing on the product and reply in writing whether the product is approved or not for use within 30 days of the initial request.
10. Prohibit the use of garbage disposals/grinders at all commercial food sources.
11. Report any sanitary sewer overflow to the Division at (480) 350-2669, within 15 minutes of becoming aware of the overflow that occurs within [project name] property.
12. Be responsible for all cleanup costs associated with any sanitary sewer overflow within [project name] property.

13. Establish a written policy and/or enter into a written agreement with a firm that is capable of properly mitigating and sanitizing any SSO which may occur within the [project name] property.
14. Be responsible and agree to pay all reimbursement costs should any SSO from the [project name] property enter into the City of Tempe stormwater system.

Sizing of the interceptor shall be completed using drainage Fixture-Unit value as defined in the Plumbing Drainage Institute (PDI) Appendix A, Table A1.7. Using the drain outlet or trap size, these sizes are converted to discharge rates on the basis of one Fixture-Unit equaling 7.5 GPM.

Fixture Outlet or Trap Size (inches)	Drainage Fixture-Unit Value	GPM Equivalent
1 ¼	1	7.5
1 ½	2	15.0
2	3	22.0
2 ½	4	30.0
3	5	37.5
4	6	45.0
Floor drains (all sizes)	2	15.0
Dishwashers	Double trap arm size	

The type of food served and preparation methods employed shall be taken into consideration. The following formula shall be used to calculate the size of the interceptor:

1. Determine total Fixture-Unit value by multiplying Fixture type count by drainage value.
2. Total all values.
3. Determine total flow by multiplying total value by flow rate of 3 GPM.
4. Multiply total flow by 12.
5. Round to the next nearest size interceptor – a minimum of a 500-gallon interceptor is required.

Except for domestic sources, users shall not convert solid waste into liquefied waste and introduce such waste into the POTW by means of a garbage grinder/disposal. The liquefied waste does not easily pass through the interior piping to the interceptor. With time, a gelatinous layer on the interior wall of the piping occurs, which leads to pest infestation. The additional organic materials introduced into the interceptor increase septic conditions. The result is the production of hydrogen sulfide gas that is considered a nuisance as defined by §27-10(b)(9). §27-10(b)(7) prohibits the introduction of pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems.

The following is an example of a restaurant that will have one 3-compartment sink discharging indirectly into a 2 ½-inch floor drain, one mop sink that has a 3-inch drain, two 2-inch floor sinks, and four floor drains.

Type of Fixture	Fixture Count	Size	Fixture-Unit Value	Total
3-comp. sink	1	2 ½"	4	4
Mop sink	1	3"	5	5
Floor sink	2	2"	3	6
Floor drain	4	N/A	2	8
Total Fixture-Units				23
Multiply by 3 GPM Flow Rate				X 3
Total GPM Flow Rate				69
Multiply by 12 ¹				X 12
Size of interceptor calculated				828
Round up to next available size				1050

The interceptor shall be:

- A minimum of a 500-gallon capacity, two-chamber concrete container (fiber glass and/or other type material must be approved by the Water Utilities Department).
- An interceptor with a capacity of 750 gallons² or larger shall be a three-chamber concrete container.
- Installed with the interior inlet piping having a 90 degree elbow with a minimum of an 18-inch down spout.
- Installed with the outlet side piping of the interceptor supplied with a sanitary-tee with a minimum of an 18-inch down spout.
- Installed with a "two-way" clean-out on both the inlet and outlet sides of the interceptor immediately before and after the interceptor.
- The appropriate traffic rated or non-traffic rated cover shall be installed. At no time shall these covers be marked in any way with "City of Tempe."

Installation of Grease Traps

Interior grease traps shall be allowed only when there are minimal fixtures being used for food preparation. The following are examples of those facilities that may install a grease trap in lieu of a grease interceptor:

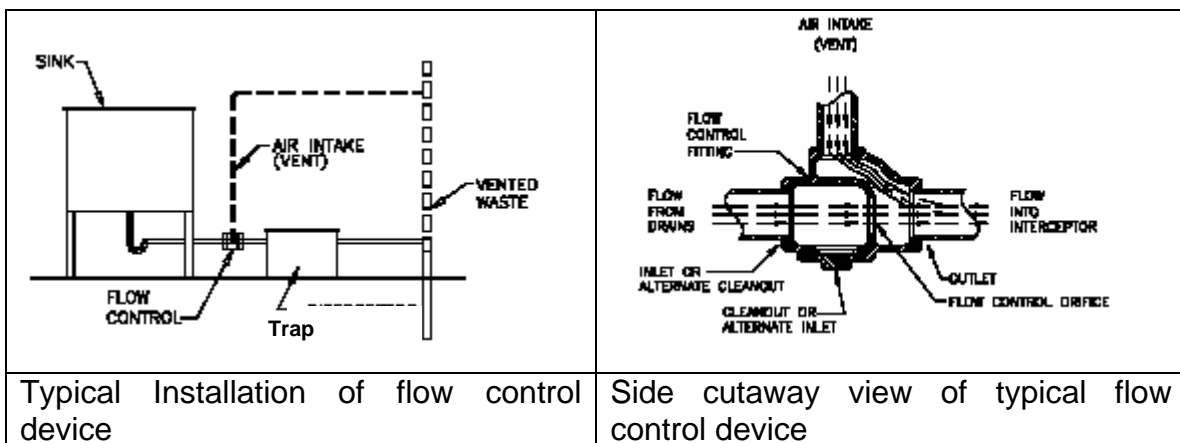
Delicatessens, sandwich shops, coffee shops, and pizza take out facilities (only pizza being served), and ice cream parlors. These facilities must have limited preparation of pre-cooked meals/food,

¹ Prior to 2006, a retention time value of 17 was used to calculate GI size for facilities with garbage disposal units.

² Be advised a 750-gallon interceptor may be manufactured with only two man-ways. Cleaning of the final compartment is extremely difficult. A three man-way interceptor is much less difficult to clean and maintain.

minimal cooking, food preparation and where minimal cleanup from food service would take place.

In all cases the minimum grease trap shall be no smaller than a device rated at 50-gallon-per-minute flow with a 100-pound grease capacity (50/100). The trap may be installed on top of the floor or below floor grade. The flow restriction valve shall be installed upstream of the grease trap and be constructed in such a fashion that it remains accessible for service, is properly vented, and remains in place at all times. If the flow restriction valve is not accessible for inspection and maintenance purposes, the installation will not be approved.



Each facility must obtain written approval from the Environmental Division of the Water Utilities Department for the installation of any type of pretreatment device including all interceptors and traps. In order to obtain approval, a plumbing permit must be obtained. Once the permit and plan review process has been completed, the Plan Check Engineer assigned to review your plans shall obtain written approval from Environmental staff. Contact the Development Services Department at (480) 350-8341 for further information on obtaining plumbing/building permits.

Maintenance

Maintenance of grease interceptors and grease traps shall be the sole responsibility of owner or operator to ensure proper operation in preventing any obstruction, interference, or damage to the collection system.

Grease Traps

It is recommended that all grease traps be fully pumped on a 30-day cycle. No partial pumping shall be allowed. The sides, bottom, and baffles shall be scraped to remove all solids. After cleaning, the trap shall be filled with fresh water only provided by normal facility discharge from permanently installed

fixtures. The use of water hoses to fill the trap may create a backflow hazard if at any time the hose is allowed to be placed below the flood plain of the trap. Contents removed from the interceptor shall be hauled and disposed of off-site in accordance with all City, County, State, and Federal regulations that may apply.

Grease Interceptors

All grease interceptors shall be pumped entirely at 25% total volume of accumulated solids and grease waste. No partial pumping shall be allowed. The sides, bottom, and baffles shall be scraped to remove all solids. Contents removed from the interceptor shall be hauled and disposed of off-site in accordance with all City, County, State, and Federal regulations that may apply.

After cleaning, the interceptor shall be filled with fresh water only provided by normal facility discharge from permanently installed fixtures. The use of water hoses to fill the interceptor may create a backflow hazard if at any time the hose is allowed to be placed below the flood plain of the interceptor. The pumping frequency shall be at a minimum of every 90 days. Depending on the use and size of the interceptor, more frequent pumping may be required. The Environmental Division will assist with the determination if requested.

Cleaning Methods

The Environmental Division recommends that only mechanical cleaning take place. It further recommends that no chemical or bacteriological additive be introduced into the grease interceptors. At no time shall any additive be introduced that causes emulsification and/or saponification to occur.

The Environmental Division will inspect all grease interceptors to ensure compliance with Tempe City Code requirements. The inspection frequency will be, at a minimum, every 12 months, unless the Environmental Division determines, at its discretion, more or less frequent inspections are required. The inspection criteria will include, but is not limited to, the following:

- Location and accessibility
- Capacity in gallons
- Identification of inlet and outlet compartments
- Identification of inlet and outlet piping systems
- Identification of missing and/or damaged systems
- Identification of chemical additives (bacterial or enzymatic uses)
- Approximate capacity (depth) of accumulated solids and grease layer
- Verification of maintenance records

Existing sources not connected to grease interceptors, or those sources connected to interior grease traps which contribute significant quantities of oil

and grease wastes, shall be required to implement Best Management Practices (BMPs). In the event BMPs do not successfully reduce quantities of fats, oils and grease wastes being introduced to the collection system, those sources shall be subject to installation of upgraded grease interceptors. BMP inspections will include, but are not limited to, the following:

- Identification and description of plumbing fixtures
- Identification of facility grease reduction procedures
- Identification of facility grease rendering container, where applicable
- Identification of in-line interior grease trap
- Identification of in-line flow control device on grease traps
- Verification of in-line interior grease trap maintenance records
- Identification of chemical use (bacterial or enzymatic uses)
- Facility seating capacity
- Facility hours of operation
- Facility schedule of routine drain line maintenance

The Environmental Division will provide written notices to all facilities following inspections indicating if the above procedures are adequate and/or if improvement is required. For those facilities for which improvement is required, the Environmental Division shall assist the facility in the identification of the source/cause of the inadequacies noted on the written report. Once the sources/causes of the inadequacies are identified, the Environmental Division will request that the facility correct the inadequacies as soon as practicable. In the case of cleaning, the action shall be within five working days. For mechanical correction such as plumbing/equipment change the Environmental Division and facility will reach a consensus, but the correction period shall not be longer than 120 days from date of written notice.

Those facilities determined to be in continued violation of Tempe City Code requirements will be provided a written notice of violation. Follow-up inspections will be completed to ensure compliance. Failure to comply will result in further enforcement actions, which ultimately could result in the termination of sewer service and imposition of fines.